Single Photon Emission Computed Tomography (Spect) Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 115 pages | Mordor Intelligence

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Report description:

The single photon emission computed tomography (SPECT) market is expected to register a CAGR of 5.7% during the forecast period.

COVID-19 has a huge impact on the patients as they became self-selective in a way that they canceled their nuclear imaging procedures, which were categorized as nonessential. This pandemic affected the operations of hospitals and doctors, as they were also prioritizing their procedures and postponed a number of elective surgeries and radiation treatments, due to which there was a decrease in the demand for related SPECT scans. Besides the negative impact of COVID-19, it has created opportunities for players in this field to establish their presence by launching new products or progressing clinical studies in this field. For instance, in November 2020, NanoMab Technology Limited received CTA Acceptance from the Medicines Healthcare products Regulatory Agency (MHRA) to carry out a Phase II clinical Study for its NM-01 product. This study will assess the programmed death-ligand 1 (PD-L1) expression using 99mTc-NM-01 as a SPECT/CT radiotracer and its correlation to PD-L1 expression results based on routine immunohistochemical (IHC) testing in biopsy diagnostic specimens.

Single-photon emission computed tomography (SPECT) is used in the evaluation of disease processes based on functional and metabolic information of organs and cells. The most widely used SPECT systems are based on the anger gamma camera, usually involving dual detectors that rotate around the patient. The application of hybrid equipment and fused techniques has increasing importance in the field of imaging diagnostics. One of the most significant advantages of these methods is the simultaneous use of several modalities, which can give data about the morphological, functional, and molecular changes of the different diseases at the same time.

The rising prevalence of cases of cancer, such as breast cancer and prostate cancer, is likely to enhance the market growth

significantly in the future. For instance, as per the report of the American Cancer Society, in 2021, there were an estimated 1,898,160 new cancer cases diagnosed and 608,570 cancer deaths in the United States.

The integration of X-ray computed tomography (CT) into SPECT recently emerged as an essential diagnostic tool in medical imaging, where anatomical details may delineate functional and metabolic information. For instance, according to research published in January 2022 in the American Association of Physicists in Medicine titled "Optimization of 99mTc whole-body SPECT/CT image quality: A phantom study," single-photon emission computed tomography (SPECT) combined with X-ray computed tomography (SPECT/CT) yields information on both physiology (SPECT) and anatomy (CT).

Furthermore, there is an increasing trend of dual-modality systems and organ-specific systems to enhance the diagnostic capability of the equipment. In the past several years, there has been growing utilization of PET/CT, owing to the fact that functional and morphologic correlative images produced by this methodology improve diagnostic accuracy, and it is one of the factors that can impede the growth of the SPECT equipment market. However, the shorter half-life of radioisotopes and stringent regulatory guidelines are a few market restraints that hinder the growth of the market. However, owing to all factors mentioned above, the market is expected to witness satisfactory growth over the forecast period.

Single Photon Emission Computed Tomography Market Trends

The Gallium-67 Segment is Expected to Witness a Large CAGR Over the Forecast Period in the Single Photon Emission Computed Tomography (SPECT) Market

Gallium-67 radioisotope is used for diagnosing inflammation, both acute and chronic infection, and tumors, such as Hodgkin's disease, lymphoma (except for lymphocytic), hepatoma, and bronchogenic carcinoma. Mostly, it is used as a bone imaging agent.

Gallium-67 is the gold standard for tumor diagnosis and staging. Hybrid imaging using Ga-67 SPECT/CT enables the correct localization of lymphoma lesions. Ga-67 is a commonly used agent for the imaging of inflammation because of its ability to accumulate non-specifically in inflamed areas as a metal-transferrin complex, followed by further binding to transferrin receptors. Some of the market players which provide Gallium Citrate GA-67 are Lantheus Medical Imaging and Mallinckrodt Nuclear.

According to the International Agency for Research on Cancer (IARC), by 2040, it is estimated that new cases of cancer to grow to 27.5 million. In addition, the global cancer burden is anticipated to increase by 70% in the next 20 years. such growing burden of cancer generates the need for the radioisotopes in diagnosis and treatment of the disease and thus drives the growth of the market segment

Thus, owing to the rising prevalence of various bone disorders and cancers and the benefits associated with Gallium-67, the market is expected to witness a high growth rate over the forecast period.

North America is Expected to Hold a Significant Share in the Market and Expected to do Same Over the Forecast Period

The SPECT market in the United States is growing propelled by advancements in technology, including hybrid imaging, the introduction of new radiopharmaceuticals for diagnosis, and the development of molecular imaging. Technetium 99m (TC-99m) is the most widely used imaging agent due to its versatility.

According to the Global Cancer Observatory (Globocan) 2020, the United States has the second largest number of prevalent cases of cancer in the world. The total prevalent cases of all ages accounted for 2,281,658 in 2020. There is also increasing investment in cancer disease research and treatment in the United States. According to data published by the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC), the investments for cancer were estimated to reach up

to USD 7,176 million in 2021. This was a marked increase from the 2020 figures of USD 7,035 million.

Additionally, the introduction of new products in the market is also boosting the growth of the market in the region. For instance, in July 2020, Spectrum Dynamics Medical introduced a digital solid-state cadmium zinc telluride (CZT)-based cardiac SPECT system called D-SPECT Vista. The system can be used for myocardial perfusion imaging. In September 2020, Siemens Healthineers introduced a new version of its c.cam dedicated cardiac nuclear medicine system to the US market. This single-photon emission computed tomography (SPECT) scanner with a reclining patient chair offers nuclear cardiology providers a low total cost of ownership, ease of installation, and a high level of image quality. Also, in March 2020, Curium received United States Food and Drug Administration approval for Pulmotech MAA. It is a SPECT agent used in lung imaging and evaluating pulmonary perfusion. Hence, owing to these factors, the market is likely to grow in the future.

Single Photon Emission Computed Tomography Market Competitor Analysis

The single photon emission computed tomography (SPECT) market is consolidated competitive and consists mostly of global players such as Koninklijke Philips NV, Siemens AG, GE Healthcare (GE Company), etc. With the growing burden of chronic diseases across the globe and the rising significance of SPECT in various diseases, few companies are expected to enter the market studied.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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